

NOTE ON THE DISTINCTION BETWEEN THE BROAD- AND NARROW-LEAVED ANTENNARIAS OF MINNESOTA.—The broad-leaved and narrow-leaved *Antennarias* of the Gray's Manual range in the United States are customarily separated in keys on the basis of leaf size and nervation, with the size-ranges overlapping and the nerves varying in number from 3 to 7 in the broad-leaved plants to 1 or 3 in the narrow-leaved ones. Usually the nerves are said to be "prominent" in the former types and, when 3, "obscure" in the latter. Possibly this separation serves well enough for plants over most of the range, but for Minnesota plants it is unsatisfactory. Most of our narrow-leaved plants have 3 nerves, and these are often prominent. Close observation shows differences that make the separation more certain, particularly for the beginning student. The following dichotomy distinguishes reasonably well between our broad-leaved plants (*A. fallax*, *A. munda*, and *A. plantaginifolia* of the 8th edition of Gray's Manual) and our narrow-leaved ones (*A. aprica*, *A. campestris*, *A. canadensis*, *A. microphylla*, *A. neglecta*, *A. neodioica*, and *A. petaloidea* of the 8th edition):

Largest basal leaves 12–50 mm wide, 30–100 mm long, with 3–7 lengthwise nerves at base of blade that are prominent beneath, the two (main) laterals nearest the midrib each located nearly always from $\frac{1}{3}$ to $\frac{1}{2}$ of the way from the midrib to the margin where farthest from the margin, usually extending past the broadest point of the blade and converging toward and nearly reaching the leaf tip, additional nerves if any branching mostly from the outer sides of the two laterals mentioned; smaller leaves and those not fully expanded often with lateral nerves as described below; largest blades tending to be widest between $\frac{1}{3}$ and $\frac{2}{3}$ of the way to the tip; leaves of the flowering stem acute to bristle-tipped, without scarious appendages

broad-leaved plants.

Largest basal leaves 3–21 mm wide, 5–55 mm long, with 1 or 3 prominent to obscure lengthwise nerves at base of blade, very rarely with a faint additional nerve next one or both margins, when 3- or more-nerved the two main laterals each located from nearly $\frac{2}{3}$ to $\frac{3}{4}$ of the way from the midrib to the margin in the broader part of the blade, usually extending at most shortly beyond the broadest point, rarely converging toward and nearly reaching the leaf tip, additional nerves if any branching mostly from the midrib; largest blades tending to be widest between $\frac{2}{3}$ and $\frac{4}{5}$ of the way to the tip; leaves of the flowering stem as above or the upper third of them each with a thin flattened sometimes inrolled scarious appendage 1.5–2.5 mm. long by 0.4–0.9 mm wide.....*narrow-leaved plants.*

—THOMAS MORLEY, UNIVERSITY OF MINNESOTA.